

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§
JHA, et al.	§ Confirmation No.: 4536
Serial No.: 10/731,383	§ Group Art Unit: 2145
	§
Filed: December 9, 2003	§ Examiner: Lin Liu
For: TRANSMITTING COMMANDS AND	§
INFORMATION BETWEEN TCP/IP	§
STACK AND AN OFFLOAD UNIT	

MAIL STOP APPEAL BRIEF-PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Dear Sir:

Applicant submits this Reply Brief to the Board of Patent Appeals and Interferences in response to the Examiner's Answer mailed on August 5, 2008. While Applicants' maintain each of the arguments submitted in Applicants' previously submitted Appeal Brief, Applicants make the following further arguments in light of the Examiner's Answer. Although Applicants believe that no additional fees are due in connection with this reply, the Commissioner is hereby authorized to charge Deposit Account No. 20-0782/NVDA/P000862/SW for any fees necessary to make this reply timely and acceptable to the Office.

REMARKS

Regarding claims 1, 7, 16, and 22:

Claims 1, 7, 16, and 22 each recite the limitation of a bit in every entry of the (command or notification) ring that indicates ownership of each one of the entries. For example, claims 1 and 7 each clearly recite that “every entry in the ring includes a bit,” claim 16 clearly recites that “every entry in the command ring includes a bit,” and claim 22 clearly recites that “every entry in the notification ring includes a bit.” Pinkerton, Boyd, and Lanteigne each fail to teach or suggest this limitation.

Pinkerton teaches that the offload unit produces a linked list of parameters. However, there is no ownership associated with the parameters. Regarding ownership, Pinkerton specifically teaches that one type of variable, the DELEGATED variable, may be owned by the host or offload unit (see paragraph [0041]). The variable is not a parameter and is not stored in any entry of the linked list.

To provide a teaching of the bit in every entry that indicates ownership of each entry, the Examiner cites Lanteigne, relying on the teaching of read and write pointers of a control ring buffer that are owned by different processes (see col. 13, lines 47-59). The read pointer points to an entry that will be read, and the write pointer points to an entry that will be written. The read pointer and write pointer are not stored in any of the buffer entries since they are used to access the buffer. Furthermore, ownership of the read pointer or the write pointer or any other construct is not stored in any entry of the disclosed control ring buffer. Like Pinkerton, and Boyd, Lanteigne also fails to teach or suggest that every entry in the command or notification ring includes a bit that indicates ownership of the entry, as recited in claims 1, 7, 16, and 22.

Regarding claim 2:

Claim 2 recites the limitation that the command includes a location of a buffer. The Examiner argues that page 5, paragraph [0043] of Pinkerton teaches this limitation. However, the location of the buffer disclosed in Pinkerton is static, so it is unnecessary to provide the location to the offload unit. Therefore, Pinkerton does not and cannot teach the subject matter of the claims.

Regarding claim 3:

Claim 3 recites the limitation that the command includes connection information needed to setup a delegated connection. The Examiner argues that page 7, paragraph [0061] of Pinkerton teaches this limitation. In particular, the Examiner states that the DELEGATED connection state includes connection information needed to setup the connection. However, the Pinkerton reference clearly shows that the DELEGATED connection state is not included in any command that is transferred to the offload unit through the command ring, contrary to the Examiner's interpretation. Thus, Pinkerton fails to teach or suggest that the command includes connection information needed to setup a delegated connection.

Regarding claim 13:

Claim 13 recites the limitation that a flag indicates a sequence number threshold is reached. The Examiner argues that page 7, paragraph [0061] of Pinkerton teaches this limitation. Pinkerton teaches that the DELEGATED variables may include a maximum sequence number ever sent (SND.MAX). However, the DELEGATED variables are not transferred from the offload unit to the host through a notification ring. In contrast, claim 13 recites that the flag is included in a notification descriptor that is transferred from the offload unit to the TCP stack. Furthermore, SND.MAX does not indicate that a sequence number threshold is reached, as also recited in claim 13. For these reasons, Applicants content that Pinkerton does not teach or suggest a sequence number threshold or a flag that indicates a sequence number threshold was reached.

Regarding claim 4:

Claim 4 recites the limitation that the command specific status written to an entry by the offload unit includes a value representing a number of buffers accepted by the offload unit. The Examiner rejected claim 4 as being unpatentable over Pinkerton, Boyd, Lanteigne, and U.S. Patent No. 6,436,620 (the '620 patent). The Examiner cites col. 13, lines 8-26 of the '620 patent for the teaching of "a value representing a number of buffers accepted by the offload unit..." However, this part of the '620 patent fails to

describe any type of offload unit or any number of buffers. Col. 13, lines 8-26 of Boucher (6,965,941) fails to teach or suggest a number of buffers. Since the '620 patent does not disclose any teaching with respect to buffers, this reference cannot teach that status information is stored in a buffer, contrary to the Examiner's assertion.

Regarding claims 39 and 41:

Claim 39 recites the limitation of including a synchronization bit configured to enable the offload unit to accept user buffer descriptors in a command that is transferred to the offload unit through the command ring. Boucher teaches a data synchronization read pointer and a data synchronization write pointer are used to transfer the data across a clock boundary. These data synchronization buffer pointers are not transferred through the command or notification ring, as plainly recited in claim 39.

Claim 41 recites the limitation of including a synchronization request flag in a notification descriptor that is transferred from the offload unit to the TCP stack through the notification ring. Claim 41 also recites the limitation of flushing user buffer descriptors that specify locations of buffers for storing payload data. Importantly, the user buffer descriptors that are flushed do not store the actual payload data, as clearly reflected in the claim language. As previously explained in regard to claim 39, Boucher fails to teach or suggest transferring the data synchronization buffer pointers through the notification ring. In col. 32, lines 34-48, Boucher teaches flushing CCB buffers that store CPD contexts when buffer space is needed by another CCB. The CCB buffers do not specify locations of buffers for storing payload data, as recited in claim 41.

CONCLUSION

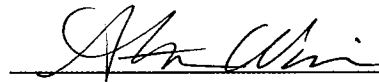
As the foregoing illustrates, no combination of the references cited by the Examiner can render independent claims 1, 7, 16, and 22 obvious. Further, since claims 2-6 and 32-35, 36-37, 39-41 depend from allowable claim 1, these claims are also patentable over any combination of the references cited by the Examiner. Dependent claims 2, 4, 13, and 39-41 are also separately patentable for the more specific reasons set forth above with respect to these claims. Claims 8-15, 17-21, and

23-27 and 38 depend from allowable claims 7, 16, and 22, respectively, and are therefore also patentable over any combination of the references cited by the Examiner.

The Examiner errs in finding that:

- Claims 1-3, 5-10, 13-25, 27, 32-38, and 40 are unpatentable over Pinkerton in view of Boyd and Lanteigne.
- Claim 4 is unpatentable over Pinkerton in view of Boyd and Lanteigne and further in view of Aylward or Boucher.
- Claims 39 and 41 are unpatentable over Pinkerton in view of Boyd and Lanteigne and further in view of Boucher.
- Claims 11, 12 and 26 are unpatentable over Pinkerton in view of Boyd and Lanteigne and further in view of Meyer.

Respectfully submitted,



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